

WHAT IS CLAIMED IS:

1           1.       A fuel tank system for a work vehicle, comprising:  
 2                   a first fuel tank having a first fuel outlet disposed on a lower portion  
 3 thereof;  
 4                   a second fuel tank having a second fuel outlet disposed on a lower portion  
 5 thereof;  
 6                   a cross feed line having an inner diameter and coupled to and between the  
 7 first and second outlets; and  
 8                   a check valve disposed in the cross feed line to block fuel from flowing  
 9 through the cross feed line from the second tank to the first tank.

1           2.       The fuel tank system of Claim 1 wherein the check valve comprises:  
 2                   an annulus having an outer diameter and defining a circular opening; and  
 3                   a valve element pivotally coupled to the annulus and sized to seal against  
 4 and block the circular opening in a first pivotal position and to open in a second pivotal  
 5 position.

1           3.       The fuel tank system of Claim 2, wherein the annulus defines a generally  
 2 circular sealing surface disposed about a circumference thereof and the valve element  
 3 defines a generally circular sealing surface disposed about the periphery thereof and  
 4 configured to abut and seal against the generally circular sealing surface of the annulus.

1           4.       The fuel tank system of Claim 3, further comprising a clamp extending  
 2 around an outer circumference of the cross feed line and disposed to compress the cross  
 3 feed line against the annulus.

1           5.       The fuel tank system of Claim 4, wherein the valve element comprises a  
 2 substantially planar and circular polymeric sheet having an upper portion, a lower  
 3 portion, and a polymeric hinge portion formed integral with and coupling the upper and  
 4 lower portions.

1           6.       The fuel tank system of Claim 5, wherein the valve element further  
2 includes at least one planar stiffener sheet fixed to the lower portion of the circular  
3 polymeric sheet.

1           7.       The fuel tank system of Claim 6, wherein the stiffener sheet is  
2 substantially coplanar with the lower portion and is fixed to one side of the lower portion.

1           8.       The fuel tank system of Claim 7, wherein an upper portion of the annulus  
2 has a radial thickness greater than a lower portion of the annulus, and wherein the greater  
3 thickness is sufficient to anchor the upper portion of the circular polymeric sheet.

1           9.       The fuel tank system of Claim 8, wherein the upper portion of the circular  
2 polymeric sheet is coupled to the upper portion of the annulus by at least one fastener.

1           10.      The fuel tank system of Claim 9 wherein the valve element is disposed to  
2 open in response to pressure provided by the weight of fuel from the first tank acting  
3 against the valve element and further wherein the valve element is disposed to close in  
4 response to the weight of fuel from the second tank acting against the valve element.

1 11/52 11.      A flapper valve for a fuel tank system comprising:  
2                   a polymeric annulus having a width in an axial direction greater than a  
3 thickness in a radial direction; and  
4                   a generally planar valve element including an upper portion fixed to the  
5 annulus and a lower portion configured to pivot with respect to the annulus, thereby  
6 providing a fluid passageway between the annulus and the valve element.

1           12.      The valve of Claim 11, wherein the valve element comprises a  
2 substantially planar and circular polymeric sheet having an upper portion, a lower  
3 portion, and a polymeric hinge portion formed integral with and coupling the upper and  
4 lower portions.

1           13.    The valve of Claim 12, wherein the valve element further includes at least  
2   one planar stiffener sheet fixed to the lower portion of the circular polymeric sheet.

1           14.    The valve of Claim 13, wherein the stiffener sheet is substantially coplanar  
2   with the lower portion and is fixed to one side of the lower portion.

1           15.    The valve of Claim 14, wherein an upper portion of the annulus has a  
2   radial thickness greater than a lower portion of the annulus, wherein the greater thickness  
3   is sufficient to anchor the upper portion of the circular polymeric sheet to the annulus.

1           16.    The valve of Claim 15, wherein the upper portion of the circular  
2   polymeric sheet is coupled to the upper portion of the annulus by at least one fastener.

1           17.    The valve of Claim 16, further comprising a second stiffener sheet fixed to  
2   the lower portion of the polymeric sheet on an opposing side from the stiffener sheet.

1           18.    The valve of Claim 17, wherein an outer edge of the second stiffener sheet  
2   overlaps the inner diameter of the annulus on one end thereof to thereby compress an  
3   outer circumferential edge of the polymeric sheet against the one end of the annulus.

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